base of pelvics. Caudal emarginate. Caudal peduncle $2\frac{2}{3}$ as long as deep. A rather broad dark longitudinal band along the middle of the side, ending at the base of the caudal; vertical fins barred with 3 to 5 series of dark spots.

A single specimen, 55 mm. in total length, from the La Plata.

Allied to *O. affinis*, Steind., which has a median ridge on the supraoccipital and the fins unspotted, and to *O. vittatus*, Regan, which has the supraoccipital less elevated, the scutes fewer, and the coloration somewhat different.

3. *Pœcilia heteristia.*

Depth of body about $3\frac{1}{2}$ in the length, length of head nearly 4. Snout shorter than eye, the diameter of which is 3 in the length of head; interorbital width more than $\frac{1}{2}$ the length of head. 27 or 28 scales in a longitudinal series. Dorsal 6–7; origin equidistant from end of snout and middle (♂) or posterior part (♀) of caudal fin; last two rays, in the male, produced into long filaments. Anal 8; origin in advance of that of the dorsal; fin pointed (♀) or modified into an intromittent organ which is a little shorter than the head (♂). Pectoral a little shorter than the head; pelvic fins longer in the male than in the female. Caudal rounded. Olivaceous; edges of scales darker; some blackish vertical streaks on the side; a vertically expanded blackish spot at the base of the caudal fin; male with a short blackish stripe near the upper edge of the caudal fin.

Two specimens, 35 mm. in total length, from Para.

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

December 16th, 1908.—Prof. W. J. Sollas, LL.D., Sc.D., F.R.S., President, in the Chair.

The following communication was read:—

'On the Igneous and Associated Sedimentary Rocks of the Tourmakeady District (County Mayo).' By Charles Irving Gardiner, M.A., F.G.S., and Prof. Sidney Hugh Reynolds, M.A., F.G.S. With a Palæontological Appendix by Frederick Richard Cowper Reed, M.A., F.G.S.

The general succession of the Ordovician Rocks of the district appears to be as follows:—

(4) ? Bala Beds.—Coarse conglomerate and sandstone containin pebbles, mainly of granite and felsite.

(3) Llandeilo Beds.

(*c*) Shangort Beds.—Grits and tuffs, coarse and fine, the prevalent type being a calcareous gritty tuff, in which is a series of limestone-breccias, having a maximum thickness of about 40 feet and largely formed of disrupted fragments of the underlying limestone.

(*b*) Tourmakeady Beds.—Compact pink, grey, or white limestones, sometimes in beds with a maximum thickness of about 30 feet, but usually represented by blocks in the Shangort Beds.

(*a*) Red felsite or rhyolite.—A series of flows varying much in thickness.

(2) Arenig Beds—Mount-Partry Beds.

(*d*) Variable tuffs, grits, and cherts, the tuffs being seen only in the southern half of the area.

(*c*) Coarse quartzose and felspathic grits.

(*b*) Grits, graptolitic black slates, and radiolarian cherts.

(*a*) Coarse conglomerates, the pebbles of which consist almost entirely of grit.

A considerable series of graptolites, collected from the Mount-Partry Beds, has been examined by Miss G. L. Elles, D.Sc., and they prove to be of Upper Arenig age—about the zone of *Didymograptus hirundo*. The radiolaria from the same series of rocks have been studied by Dr. G. J. Hinde, F.R.S.

The most interesting and puzzling beds of the district are those of Llandeilo age. Although the limestones (Tourmakeady Beds) occur in the main as disrupted blocks in the gritty tuffs (Shangort Beds), the fossils indicate that there is no material difference in the age of these two deposits; and the Authors believe that, after the deposition and consolidation of the limestone, but during the prevalence of the same faunal types as those which characterize that deposit, the limestone was broken up by volcanic explosions, and its fragments, mingled with bits of felsite and other material, were deposited as the peculiar limestone-breccias. This view regarding their formation is held to afford an adequate explanation of the patchy development of these rocks.

The intrusive rocks are of considerable interest. They are, in the main, felsites with large quartz-crystals, and not infrequently contain augite. Some of them are certainly intrusive in the coarse Bala (?) conglomerate. A number of small but interesting intrusions of olivine-dolerite, hornblende-lamprophyre and fine-grained oligoclase-bearing rocks are scattered throughout the district.

The appendix embodies a critical review of the fauna of the Llandeilo Beds of the district, and a description of several new species of brachiopods and trilobites.